

Exhibit B

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

APPLERA CORPORATION, MDS INC., and APPLIED BIOSYSTEMS/MDS SCIEX INSTRUMENTS,)	
Plaintiffs,)	
vs.)	Civil Action No: 04-1230
THERMO ELECTRON CORPORATION,)	
Defendant)	JURY TRIAL DEMANDED

**AMENDED ANSWER AND COUNTERCLAIMS
OF THERMO ELECTRON CORPORATION**

Thermo Electron Corporation ("Thermo") answers the allegations of the Complaint as follows:

THE PARTIES

1. Thermo is without knowledge or information sufficient to form a belief as to the truth of the allegations contained in Paragraph 1 of the Complaint.
2. Thermo is without knowledge or information sufficient to form a belief as to the truth of the allegations contained in Paragraph 2 of the Complaint.
3. Thermo is without knowledge or information sufficient to form a belief as to the truth of the allegations contained in Paragraph 3 of the Complaint.
4. Thermo admits the allegations in Paragraph 4 of the Complaint.
5. Thermo admits the allegations in Paragraph 5 of the Complaint.

JURISDICTION

6. No answer is required to the allegations contained in Paragraph 6 of the Complaint, which merely state conclusions of law.

BACKGROUND

7. Thermo admits that United States Patent No. 4,963,736 ("the '736 Patent"), entitled "Mass Spectrometer and Method and Improved Ion Transmission," was issued by the United States Patent and Trademark Office ("USPTO") on October 16, 1990 to Donald J. Douglas and John B. French. Thermo further admits that a copy of the '736 patent is attached to the Complaint as Exhibit A. Thermo denies that the '736 patent was duly and legally issued.

8. Thermo admits that on May 25, 1999, the USPTO issued Re-Examination Certificate B1 4,963,736, which Certificate purports to confirm the validity of all of the claims of the '736 patent. Thermo denies that the claims of the '736 patent are valid. Thermo admits that a copy of the Re-Examination Certificate B1 4,963,736 is attached to the Complaint as Exhibit B.

9. Thermo is without knowledge or information sufficient to form a belief as to the truth of the allegations in Paragraph 9 of the Complaint.

10. Thermo admits the allegations in Paragraph 10 of the Complaint.

11. Thermo admits the allegations in Paragraph 11 of the Complaint.

12. Thermo is without knowledge or information sufficient to form a belief as to the truth of the allegations in Paragraph 12 of the Complaint.

13. Thermo is without knowledge or information sufficient to form a belief as to the truth of the allegations in Paragraph 13 of the Complaint.

14. Thermo is without knowledge or information sufficient to form a belief as to the truth of the allegations in Paragraph 14 of the Complaint.

CLAIM FOR PATENT INFRINGEMENT

15. Thermo is without knowledge or information sufficient to form a belief as to the truth of the allegations in Paragraph 15 of the Complaint.

16. Thermo is without knowledge or information sufficient to form a belief as to the truth of the allegations in Paragraph 15 of the Complaint.

17. Thermo admits the allegations in Paragraph 17 of the Complaint.

18. Thermo denies the allegations in Paragraph 18 of the Complaint.

19. Thermo denies the allegations in Paragraph 19 of the Complaint.

20. Thermo denies the allegations in Paragraph 20 of the Complaint.

AFFIRMATIVE DEFENSES

FIRST AFFIRMATIVE DEFENSE

21. Applera Corporation, MDS Inc., and Applied Biosystems/MDS Sciex Instruments ("Plaintiffs") are not entitled to any relief against Thermo because Thermo is not infringing and has not infringed any of the claims of the '736 patent.

SECOND AFFIRMATIVE DEFENSE

22. One or more of the claims of the '736 patent are invalid under one or more sections of Title 35 of the U.S. Code, including without limitation, 35 U.S.C. §§ 102, 103 and 112.

THIRD AFFIRMATIVE DEFENSE

23. The '736 patent is unenforceable against Thermo because of waiver, estoppel, laches, or other applicable equitable doctrines.

FOURTH AFFIRMATIVE DEFENSE

24. Thermo, pursuant to 28 U.S.C. § 1498(a), is exempt from liability because and to the extent that an alleged invention described in and allegedly covered by the '736 patent is used or manufactured by or for the United States.

FIFTH AFFIRMATIVE DEFENSE

25. Plaintiffs' claims are barred in whole or part by the doctrines of res judicata, claim preclusion, issue preclusion, collateral estoppel, equitable estoppel, unclean hands, and/or judicial estoppel.

SIXTH AFFIRMATIVE DEFENSE

26. Plaintiffs are not entitled to recovery for any infringement committed more than six years prior to the filing of the Complaint in this Action, pursuant to 35 U.S.C. § 286.

SEVENTH AFFIRMATIVE DEFENSE

27. As detailed in the paragraphs that follow, Applera Corp., MDS Inc., and Applied Biosystems/MDS Sciex Instruments (collectively "AB/Sciex") have used the '736 patent to attempt to impermissibly expand the scope of the patent right, with anticompetitive effects. As detailed in the paragraphs that follow, AB/Sciex is using the patent to try to obtain market benefit beyond that which inheres in the statutory patent right. As detailed in the paragraphs that follow, AB/Sciex is using the patent's leverage to attempt to extend the monopoly of its patent to derive a benefit not attributable to the use of the patent's teachings, including without limitation obtaining damages for sales of, and/or obtaining a license and royalty on, products that do not use the teaching of the patent. AB/Sciex's conduct has no purpose except unjustly to enrich AB/Sciex and to stifle competition including by threatening competing products premised on a baseless legal claim. As a result, the '736 patent is unenforceable.

28. As detailed below, AB/Sciex and/or its representatives have pervasively taken inconsistent positions—including with this Court and the U.S. Patent Office—with respect to the scope of the patent right. AB/Sciex's present position contradicts positions taken in this Court and in the U.S. Patent Office. The purpose and effect of AB/Sciex's present positions is to expand the scope of the patent far beyond what AB/Sciex previously represented (and the Court held), without regard to the '736 patent's plain meaning or its alleged inventive features. As a result, AB/Sciex is attempting to obtain damages for sales of, and/or obtain a license and royalty on, products that do not use the teaching of the patent.

29. As detailed below, AB/Sciex has accused Thermo products of infringement in a bad faith attempt to expand the patent beyond its lawful scope. Specifically, as detailed below, AB/Sciex previously represented that its '736 patent did not cover certain devices, and the court ruled that the '736 patent did not cover those devices. Yet, AB/Sciex has now accused those very devices of infringing its patent. AB/Sciex's position is in bad faith. AB/Sciex knows that the '736 patent does not cover some or all of the accused devices, including without limitation all of the accused devices that Thermo is currently manufacturing and selling. AB/Sciex is thus attempting to enforce its '736 patent against products that it knows do not infringe the '736 patent.

30. Additionally, AB/Sciex's positions have created significant uncertainty as to what AB/Sciex considers the '736 patent to mean. AB/Sciex's purpose and effect is to stifle competition in the mass spectrometry market by creating the apprehension among competitors in this field (including without limitation Thermo) that any mass spectrometer is at risk of being sued for infringement, regardless of its operating features and regardless of prior statements by AB/Sciex and/or its representatives that machines with those features fall outside the patent

scope. This apprehension has had and continues to have anticompetitive effect by preventing competitors from designing and selling mass spectrometers in an open and fair market place. For example, but without limitation, competitors (including without limitation Thermo) can no longer design products in reliance on statements by AB/Sciex as to the proper scope of the '736 patent, because AB/Sciex repudiates such statements in the face of newly designed competing products by making false infringement charges.

31. AB/Sciex has previously represented to this Court that "The inventors disclosed all prior art that they considered relevant to their invention. . . . [R]eferences relating to 'ion traps' . . . were not relevant "

32. AB/Sciex has previously represented to this Court that, "An 'ion trap' is a device that consists of a chamber that is capable of storing ions for a relatively long period of time before ejecting the ions out of the device."

33. The named inventor of the '736 patent (Dr. Douglas) testified under oath that "there's no ion storage in the '736 patent."

34. Dr. Douglas testified under oath that an ion trap is "a very different device."

35. The Court ruled in prior litigation that "AB/Sciex should be estopped from claiming that the claims of the '736 patent cover ion traps under the doctrine of equivalents. . . . [A] competitor would reasonably conclude that ion traps would not infringe the claimed mass spectrometer system."

36. Repeatedly in reexamination, AB/Sciex represented to the Patent Office that the '736 patent was not invalidated by prior art because that prior art related to ion traps.

37. For example, AB/Sciex repeatedly represented to the Patent Office that prior art ion traps “operate[] on a fundamentally different principle than the mass spectrometer system according to the invention.”

38. Nevertheless, AB/Sciex has now accused Thermo’s LTQ ion trap of infringing the ‘736 patent.

39. The independent claims of the ‘736 patent require that a rod set in the mass analyzer include a “means for applying both AC and DC voltages” (Claim 1(f)) and “placing AC and DC voltages between the rod means” (Claim 14(d)) (emphasis added).

40. During re-examination of the ‘736 patent, AB/Sciex and/or its representatives and/or the patent applicants specifically distinguished a prior art French reference on a number of grounds including that “the French application receives an AC only voltage” (emphasis added).

41. No version of any LTQ ion trap ever manufactured, sold, or offered for sale by Thermo has any DC voltage applied between the “rods” in its mass analyzer.

42. Every version of every LTQ ion trap ever manufactured, sold, or offered for sale by Thermo receives an AC only voltage between the “rods” in its mass analyzer.

43. Based on information available before AB/Sciex brought suit, and confirmed through discovery that has taken place to date, it is not possible for AB/Sciex to have formed a good faith belief that the LTQ ion trap contains the allegedly infringing feature. AB/Sciex thus has actual knowledge that the LTQ ion trap does not infringe the ‘736 patent.

44. Nevertheless, AB/Sciex has now accused Thermo’s LTQ ion trap of infringing the ‘736 patent.

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45. The independent claims of the '736 claims require that the PxL (i.e., pressure times length) ratio in a "first chamber" equal or exceed 2.25×10^{-2} torr cm.

46. Prior art experiments by Dr. Smith showed use of a PxL value in a first chamber of 1.76×10^{-2} torr cm.

47. The specification of the '736 patent refers to this as "[t]he traditional use of low pressure"

48. AB/Sciex and/or its representatives have stated that "the '736 patent was not claiming the range of PL values disclosed by Smith."

49. Before the '736 patent issued, Dr. Douglas performed at least one so-called "low pressure" experiment.

50. Neither Dr. Douglas nor anyone else disclosed this experiment to the Patent Office during prosecution of the '736 patent.

51. AB/Sciex and/or its representatives have stated that "Dr. Douglas had no reason to think that the experiment was material."

52. AB/Sciex's allegations in this lawsuit are predicated on the Q00 chamber in Thermo's TSQ Quantum mass analyzer corresponding to the "first chamber" claimed by the '736 patent.

53. Every version of every TSQ Quantum being manufactured, sold, or offered for sale by Thermo has a PxL ratio in its Q00 chamber that is substantially below the so-called "low pressure" experiments of Dr. Douglas and Dr. Smith.

54. Based on information available before AB/Sciex brought suit, and confirmed through discovery that has taken place to date, it is not possible for AB/Sciex to have formed a good faith belief that the TSQ Quantum being manufactured, sold, and offered for sale contains

the allegedly infringing feature. AB/Sciex thus has actual knowledge that the TSQ Quantum being manufactured, sold, and offered for sale by Thermo does not infringe the '736 patent.

55. Nevertheless, AB/Sciex has now accused Thermo's TSQ Quantum of infringing the '736 patent.

COUNTERCLAIMS

Counterclaim plaintiff Thermo Electron Corp. ("Thermo"), for its counterclaims against Applera Corporation ("Applera"), MDS Inc. ("MDS"), and Applied Biosystems/MDS Sciex Instruments ("Applied Biosystems/MDS Sciex") (collectively "counterclaim defendants"), alleges as follows:

PARTIES

1. Thermo Electron is a Delaware corporation having a place of business at 81 Wyman Street, Waltham, MA 02454.

2. On information and belief, Applera is a Delaware corporation having a principal place of business at 301 Merritt 7, Norwalk, CT 06851.

3. On information and belief, MDS Inc. is a Canadian corporation having its principal place of business at 100 International Boulevard, Toronto, Ontario, Canada M9W 6J6.

4. On information and belief, Applera, through its subsidiary Applied Biosystems (Canada) Limited, and MDS, through its MDS Sciex Division, are general partners of Applied Biosystems/MDS Sciex Instruments

5. On information and belief, Applied Biosystems/MDS Sciex Instruments is a Canadian partnership formed under the laws of the Province of Ontario, Canada and having a place of business at 71 Four Valley Drive, Ontario, Canada L4K 4V8.

JURISDICTION AND VENUE

6. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331, 1338(a) and 2201.

7. The counterclaim defendants are subject to personal jurisdiction in this District.

8. Venue for this action is proper in this District pursuant to 28 U.S.C. §§ 1391 and 1400(b).

FACTS

9. Upon information and belief, MDS claims to be the owner of United States Patent No. 4,963,736 ("the '736 patent").

10. Upon information and belief, Applera and Applied Biosystems/MDS Sciex Instruments claim to be co-exclusive licensees of the '736 patent, and Applera claims to be, through its Applied Biosystems Group, the exclusive worldwide distributor of products manufactured by MDS that embody the invention of the '736 patent.

11. The counterclaim defendants have accused Thermo of infringement of the '736 patent.

12. The counterclaim defendants' accusations give rise to a case of actual controversy within the jurisdiction of this Court, pursuant to 28 U.S.C. § 2201 and 2202.

COUNT ONE

(Non-infringement of the '736 Patent)

13. Thermo repeats and realleges the allegations of the preceding paragraphs as if fully set forth herein.

14. Thermo is not infringing and has not infringed, directly, by inducement or contributorily, on any claim of the '736 patent.

15. To resolve the legal and factual questions raised by the counterclaim defendants and to afford relief from the uncertainty and controversy which the counterclaim defendants' accusations have precipitated, Thermo is entitled to a declaratory judgment that it does not infringe on any claim of the '736 patent.

COUNT TWO

(Invalidity of the '736 patent)

16. Thermo repeats and realleges the allegations of the preceding paragraphs as if fully set forth herein.

17. One or more claims of the '736 patent are invalid under one or more sections of Title 35 of the United States Code, including without limitation, 35 U.S.C. §§ 102, 103, and 112.

18. To resolve the legal and factual questions raised by the counterclaim defendants and to afford relief from the uncertainty and controversy which the counterclaim defendants' accusations have precipitated, Thermo is entitled to a declaratory judgment that one or more claims of the '736 patent are invalid.

COUNT THREE

(Unenforceability of the '736 patent)

19. Thermo repeats and realleges the allegations of the preceding paragraphs as if fully set forth herein.

20. The '736 patent is unenforceable.

21. To resolve legal and factual questions raised by the counterclaim defendants and to afford relief from the uncertainty and controversy which the counterclaim defendants' accusations have precipitated, Thermo is entitled to a declaratory judgment that the '736 patent is unenforceable.

PRAYER FOR RELIEF

WHEREFORE, Thermo Electron Corp. ("Thermo") requests entry of judgment in its favor and against Applera Corp. ("Applera"), MDS Inc. ("MDS"), Applied Biosystems/MDS Sciex Instruments ("Applied Biosystems/MDS Sciex") as follows:

A. Adjudge that Thermo has not infringed the '736 patent and/or that the '736 patent is invalid and/or unenforceable, and enter a declaratory judgment to that effect;

B. Dismiss the Complaint of Applera, MDS, and Applied Biosystems/MDS Sciex with prejudice, denying them all relief;

C. Enter an Order finding that this is an exceptional case and award Thermo its reasonable attorneys' fees pursuant to 35 U.S.C. § 285; and

D. Award Thermo such other relief, including costs, as the Court may deem appropriate and just under the circumstances.

DEMAND FOR JURY TRIAL

Defendant Thermo Electron Corporation demands a trial by jury on all issues so triable.

OF COUNSEL:

William F. Lee
Wayne L. Stoner
Stephen M. Muller
Michael R. Dube
Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, MA 02109
(617) 526-6000

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Frederick L. Cottrell, III (#2555)
(Cottrell@RLF.com)
Kelly E. Farnan (#4395)
(Farnan@RLF.com)
Richard, Layton & Finger
One Rodney Square
920 N. King Street
P.O. Box 551
Wilmington, DE 19899
(302) 651-7700
Attorneys for Thermo Electron Corporation